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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,363	01/22/2004	Toshiaki Takahashi	50195-413	3424
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EXAMINER SALOMON, PHENUEL S				
ART UNIT 2178		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,363

Applicant(s)

TAKAHASHI ET AL.

Examiner

PHENUEL S. SALOMON

Art Unit

2178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CI/CC)
Paper No(s)/Mail Date 4/2008

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed on March 06, 2008. Claims 1, 3, 7, 9 and 18 are amended; claim 2 is cancelled and claims 1, 3-18 are pending for further examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US 5,784,059) in view of Ito (4,988,996).

Claim 1: Morimoto discloses a display system for a vehicle, which presents to a user a plurality of menu items respectively corresponding to functions of devices/equipment mounted on the vehicle by displaying an operation menu including some of the menu items on a screen of a display of the system, and allows the user to select one of the displayed menu items to perform the function thereof, the system comprising:

an input unit to be operated by the user (col. 3, lines 5-8);

an operation capability judgment unit (control means) which judges user's operation capability of the input unit (col. 3, lines 5-10);

a storage unit which stores hierarchically structured first menu information, the first menu information comprising a plurality of the operation menus respectively registered in a plurality of tiers of the first menu information (col. 3, lines 57-67);

a display control unit which determines the operation menu to be displayed on the screen, using the first menu information or a second menu information having a limited number of tiers as compared with the first menu information (col. 3, lines 54-67), but does not explicitly disclose according to the driving load on the user determined by the driving load determination unit, wherein the display control unit determines, based upon the operation capability of the user judged by the operation capability judgment unit, a timing to shift from a process of displaying the operation menu using the first menu information to a process of displaying the operation menu using the second menu information

a driving load determination unit which determines a driving load on the user who drives the vehicle. However, Ito discloses:

a driving load determination unit which determines a driving load on the user who drives the vehicle (col. 4, lines 22-25);

a processing unit that displays warning information based on various operating conditions (col. 4, lines 22-25), a processing unit that receives signal determining the state of the vehicle and display a warning that limit the shifting from one menu to the next until the condition is clear (col. 4, lines 45-61). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include these features in Morimoto. One would have been motivated to do so in order to limit the driver choice in term of features, thus forcing the driver to only focus on the road.

Claim 3: Morimoto and Ito disclose a display system as in claim 1 above, and Morimoto further discloses the operation capability judgment unit (learning means) monitors operation time of the user to judge the

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operation capability of the user, and changes the number of tiers of the respective first and second menu information, based on the operation capability (col. 3, lines 30-38).

Claim 5: Morimoto and Ito disclose a display system as in claim 4 above, and Morimoto further discloses the number of tiers of the second menu information is increased when the user frequently carries out the continuous operation of the input unit (col. 4, lines 53-63).

Claim 18: Morimoto discloses an information display system for a vehicle comprising:

A display device configured to display operation menu including a plurality of menu items corresponding to respective functions of vehicle-mounted devices (col. 3, lines 66-67 and col. 4, lines 1-3);

an input unit configured to be operated by a user and to allow the user the user to select the menu items of the operation menu displayed by the display device(col. 3, lines 5-8); and

a controller comprising:

an operation capability judgment unit (control means) configured to judge an operation capability of the user with respect to the input unit (col. 3, lines 5-10)

a storage unit configured to store a first menu information comprising menu items of a plurality of the operation menus organize in a plurality of tiers (col. 3, lines 57-67);

a display determination unit configured to determine that determines the operation menu to be displayed by selecting the first menu information or second menu information including a less number of tiers comparing with the first menu information of the user according to the driving load on the user determined by the driving load determination unit (col. 3, lines 54-67), wherein the display determination unit determines, based upon the operation capability of the user judged by the operation capability

judgment unit, a timing to shift from a process of displaying the operation menu selected from the first menu information to a process of displaying the operation menu selected from the second menu information

a driving load determination unit which determines a driving load on the user who drives the vehicle. However, Ito discloses:

a driving load determination unit which determines a driving load on the user who drives the vehicle (col. 4, lines 22-25);

a processing unit that displays warning information based on various operating conditions (col. 4, lines 22-25), a processing unit that receives signal determining the state of the vehicle and display a warning that limit the shifting from one menu to the next until the condition is clear (col. 4, lines 45-61). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include these features in Morimoto. One would have been motivated to do so in order to limit the driver choice in term of features, thus forcing the driver to only focus on the road.

4. Claims 4, 9-10, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US 5,784,059) in view of Ito (4,988,996) and in further view of Damiani (US 6,667,726 B1).

Claim 4: Morimoto and Ito disclose a display system as in claim 1 above, but do not explicitly disclose the display control unit allows a continuous operation of the input unit if the number of remaining operation steps is less than a predetermined step number at a point where it is judged, based upon the driving load, that the process of displaying the operation menu using the first menu information will be shifted to the process of displaying the operation menu using the second menu information, while the input unit is operated. However, Damiani discloses a processing unit that determines whether the speed of the vehicle is below a predetermined threshold value..(col. 5, lines 54-67 and col. 6, lines 1-15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include these features in Morimoto. One would have been motivated to do so in order to let the driver continue enjoying the available features while the vehicle is being operated properly.

Claim 9: Morimoto and Ito disclose a display system as in claim 1 above, wherein

The operation capability judgment unit comprises a driving load estimation unit that estimates a driving load of the user (Ito col. 4, lines 22-25) [comparing the ranges of the various operating conditions],

the first menu information is a full menu information that comprises a selection operation menu including a plurality of selection menu items for selecting functions of the vehicle-mounted devices, registered to a plurality of tiers; and an execution operation menu including a plurality of execution menu items for executing functions of the vehicle-mounted devices registered in a tier lower than the plurality of the tiers of the selection operation menu (col. 3, lines 54-66),

the second menu information is a modified menu information that is produced by modifying the full menu information (col. 3, lines 61-66), and

the display control unit comprises a menu production unit that produces the modified menu information, wherein the display control unit displays the operation menu by using the full menu information or the modified menu information (col. 4, lines 5-7) and (col. 3, lines 61-65). However, Damiani discloses a processing unit that receives signal determining the state of the vehicle (col. 3, lines 14-18). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include driving load estimation in Morimoto. One would have been motivated to do so in order to limit the driver choice in term of features, thus forcing the driver to only focus on the road.

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Claim 10: Morimoto, Ito and Damiani disclose a display system as in claim 9 above, Morimoto further discloses the menu production unit produces the modified menu information so that the menu item that is selected more frequently is displayed with higher priority, based upon an operation history information of each of the selection menu items and the execution menu items (col. 14, lines 51-67).

Claim 12: Morimoto, Ito and Damiani disclose a display system as in claim 9 above, Morimoto further discloses the menu production unit subdivides the selection menu item that is used frequently and produces the modified menu information comprising the subdivided selection menu item transferred to a upper tier (col. 14, lines 51-57) and (col. 3, lines 61-66).

Claim 13: Morimoto, Ito and Damiani disclose a display system as in claim 9 above, Morimoto further discloses the menu production unit produces the modified menu information comprising a selection integrated menu item that integrates a plurality of different menu items (col. 3, lines 61-66).

Claim 14: Morimoto, Ito and Damiani disclose a display system according to claim 10, Morimoto further discloses wherein

the operation history information includes cumulative values indicating how many times each menu item is selected (col. 4, lines 53-58), and

the menu production unit sets a learning coefficient that alters a rate increase of the cumulative value for each of the selection menu item and the execution menu item, and alters the operation history information of each menu item based upon the learning coefficient (col. 4, lines 20-27).

Claim 15: Morimoto, Ito and Damiani disclose a display system according to claim 14, Morimoto further discloses wherein the menu production unit produces the selection integrated menu item that integrates a

plurality of different menu items, and sets the learning coefficient so that the rate of increase of the cumulative value a learning speed of the menu item in a lower tier to the selection integrated menu item becomes smaller than that of the menu item in a lower tier to the selection menu item contained in the full menu information (col. 4, lines 58-63).

Claim 16: Morimoto, Ito and Damiani disclose a display system according to claim 14, Morimoto further discloses the menu production unit sets the learning coefficient so that the rate of increase of the cumulative value gets smaller as time elapses after each menu item has been selected (col. 4, lines 64-67).

Claim 17: Morimoto, Ito and Damiani disclose display system according to claim 14, Morimoto further discloses the menu production unit sets the learning coefficient so that the rate of increase of the cumulative value gets larger as the estimated driving load is larger (col. 5, lines 2-10).

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US 5,784,059) in view of Ito (4,988,996) and in further view of Oishi (US 4,058,796).

Claim 6: Morimoto and Ito disclose a display system as in claim 4 above, but do not explicitly disclose an amount of steering wheel operation is recorded while the operation menu using the second menu information is displayed, and the number of tiers of the second menu information is decreased in a case where the amount of steering wheel operation is large. However, Oishi discloses a steering sensor for detecting the operating conditions of the steering wheel (col. 2, lines 3-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include steering

wheel operation in Morimoto. One would have been motivated to do so in order to prevent the driver from enjoying the available features while the vehicle is being operated erratically.

Claim 7: Morimoto and Ito disclose a display system according to claim 1, wherein the operation capability judgment unit judges the operation capability of the user by monitoring an operation time thereof while the operation menu is being displayed, but do not explicitly disclose records an average operation time and amount of steering wheel operation while the operation menu is being displayed using the second menu information, thereby calculating a limit of steering wheel operation amount defined as an amount of steering wheel operation at a point where the average operation time exceeds a predetermined value, and stops displaying the operation menu in a case where an amount of steering wheel operation exceeds the limit steering wheel operation. However, Oishi discloses a variation pattern of the driving conditions is obtained in accordance with the output signal of sensing means for detecting the driving conditions, then the deviation of the variation pattern from the normal pattern corresponding to the driver is computed by computing means to generate an assistant signal and information for assisting the driving operation of the driver is generated by information generating means in accordance with the assistant signal.. (col. 1, lines 51-67 and col. 2, lines 1-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include steering wheel operation in Morimoto. One would have been motivated to do so in order to prevent the driver from enjoying the available features while the vehicle is being operated erratically.

6. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US 5,784,059) in view of Ito (4,988,996) and in further view of Entenmann (US 6,957,142 B2).

Claim 8: Morimoto and Ito disclose a display system as in claim 1 above, but do not explicitly disclose

the operation menu using the second menu information is displayed while an amount of steering wheel operation is small, and when the amount thereof is increased before an operation step of the operation menu ends, the display control unit allows to continue only one step operation in the event the number of remaining operation steps is one. However, Entenmann discloses an imminent driving task as predicted by the driver-loading prediction unit that is not above the threshold (col. 7, lines 59-66). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Morimoto. One would have been motivated to do so in order to let the driver acquire all the necessary information and a reminder about the vehicle is being operated erratically.

Claim 11: Morimoto and Ito disclose a display system as in claim 10 above, but do not explicitly disclose the menu production unit produces operation history information for each menu item divided by a weekday, a holiday or an hour belt, thereby to produce the modified menu information such that the menu item that is selected more frequently corresponding to the weekday, the holiday or the hour belt is displayed with higher priority. However, Entenmann discloses an acknowledgement dependent on the frequency of the occurrence of the associated driving style (col. 8, lines 4-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include operation history information in Morimoto. One would have been motivated to do so in order to help the driver quickly access the requested menu.

Response to Arguments

7. Applicant's arguments filed on 03/06/2008 have been fully considered but they are not persuasive.

a. Applicant argues that Morimoto also fails to teach determining an operation menu to be displayed on the screen, using first menu information or second menu information having a less number

of tiers comparing to the first menu information, according to the driving load on the user. Moreover, Morimoto fails to disclose a display control unit that determines, based upon the operation capability of the user, a timing to shift from displaying the operation menu using the first menu to displaying the operation menu using the second menu.

In response, examiner respectfully disagrees and notes that Ito was used in combination with Morimoto to remedy his deficiencies by teaching “a driving load determination unit which determines a driving load on the user who drives the vehicle (col. 4, lines 22-25) and Ito further teaches a processing unit that displays warning information based on various operating conditions (col. 4, lines 22-25), a processing unit that receives signal determining the state of the vehicle and display a warning that limit the shifting or switching from one menu to the next until the condition is clear (col. 4, lines 45-61), by limiting the user ability to shift or switch between menu there is a certain amount of time involved.

b. Applicant argues that Morimoto does not determine a driving load on the user, (2) determining an operation menu to be displayed on the screen, using first menu information or second menu information having a less number of tiers comparing to the first menu information, according to the driving load on the user, and (3) determining, based upon the operation capability of the user, a timing to shift from displaying the operation menu using the first menu to displaying the operation menu using the second menu

In response, examiner respectfully disagrees and notes that Ito was used in combination with Morimoto to remedy his deficiencies by teaching “a driving load determination unit which determines a driving load on the user who drives the vehicle (col. 4, lines 22-25) while Morimoto teaches determining an operation menu to be displayed on the screen, using first menu information or second menu

information having a less number of tiers comparing to the first menu information (col. 3, lines 54-67). And Ito further teaches a processing unit that receives signal determining the state of the vehicle and display a warning that limit the shifting or switching from one menu to the next until the condition is clear (col. 4, lines 45-61), by limiting the user ability to shift or switch between menu there is a certain amount of time involved.

c. Damiani does not disclose (1) determining a driving load on the user. Furthermore, as Morimoto does not determine a driving load on the user, (2) determining an operation menu to be displayed on the screen, using first menu information or second menu information having a less number of tiers comparing to the first menu information according to the driving load on the user, and (3) determining based upon the operation capability of the user, a timing to shift from displaying the operation menu using the first menu to displaying the operation menu using the second menu.

In response, Damiani is cited for its alleged determination of whether the speed of a vehicle is below a predetermined threshold value and Morimoto teaches determining an operation menu to be displayed on the screen, using first menu information or second menu information having a less number of tiers comparing to the first menu information (col. 3, lines 54-67). Ito further teaches a processing unit that receives signal determining the state of the vehicle and display a warning that limit the shifting or switching from one menu to the next until the condition is clear (col. 4, lines 45-61), by limiting the user ability to shift or switch between menu there is a certain amount of time involved.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
a. Toffolo et al. (US 5,757,268) discloses prioritization of vehicle display features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phenuel S. Salomon whose telephone number is (571) 270-1699. The examiner can normally be reached on Mon-Fri 7:00 A.M. to 4:00 P.M.(Alternate Friday Off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272 4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSS
6/26/2008

Stephen Hong
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